

## **ZORTMAN-LANDUSKY MINE SITE ELECTRICAL EVALUATION**

### **QUESTIONS AND ANSWERS AS OF 4/8/2010**



#### **QUESTION 1:**

The Spectrum drawing appears to be a physical location of the distribution circuit; however I am having trouble pinpointing all the transformers.

#### **ANSWER 1:**

Every transformer is marked on the two drawings with a Meter # and a T (for transformer) and the size of the transformer behind the T. If you still cannot locate them, call Bill at 406-259-2412 ext. 3 and we can walk/talk our way through each transformer.

#### **QUESTION 2:**

The intent is to have the wind machine export into the distribution circuit. The power utility under the tariff may have a problem with "wheeling power" from the injection point to the other meters on their circuit, although it appears that this may be what the EDG does. It may be necessary for BLM to take ownership of the poles & wires, and install a primary metering structure between the property line and the first connection.

#### **ANSWER 2:**

All electric lines are buried on the site with no poles visible. Over the years, a few lines have been replaced with over-the-ground cables. Some of the buried lines could be 10's to 100's of feet deep under leach pads or dumps. Big Flat Electric has not been contacted about this entire project yet. We have contacted Big Flat about primary metering before and got no where (mostly because Big Flat charges a lot for their transformers per month (see Answer 3)).

#### **QUESTION 3:**

There have been some large changes in bills for the Landusky 87 Leach Pad through the years that need to be understood?

#### **ANSWER 3:**

Easy answer. When the L87 Pad and the L91 Pad are not drawing power, we get charged \$750/month each because we have a transformer at each Pad. When we draw power (large pumps drawing up to 300 gpm vertically a couple hundred feet), the power can easily jump from \$750/month minimum to upwards of \$7,000 per month. We try to run the Biological Treatment Plant at least 9 months per year (with almost all the water being pulled from the L87 Pad). Power on=massive bill, power off=\$750/month. The negotiated transformer sizes and minimum monthly charges are shown on the Table within the RFQ entitled "Big Flat Electric Transformers and Minimum Monthly Charges". We also pump water on occasion from the L87/L91 Pads to Zortman to be land applied. This also equates to a large power demand.

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**QUESTION 4:**

Is an up to date one line available for the entire system?

**ANSWER 4:**

No. All electric lines were installed before or near the start of mining in the 1979 era. No updates since except for a few minor repairs. There are no as-built drawings on the electric distribution and even the drawings included within the RFQ should be considered best-guess estimates as to where the buried power lines are located. Big Flat Electric is in the process of providing GPS of the lines and this should be available for the successful bidder.

**QUESTION 5:**

There must be a reason why the generator-backup power meters show such a high usage. The gensets should only be consuming power for block heaters and battery trickle heaters.

**ANSWER 5:**

We would love to know the answer to that and that will be part of electrical evaluation. Both gensets took a big jump in 2009/2010. We know Big Flat Electric hooked up a primary meter within the town of Landusky and informed us they thought there was a power loss (primary meter showed more power going to the site than the sum of the parts). Maybe they are loading the extra onto the GenSets.

**QUESTION 6:**

Is obtaining and reviewing electrical drawings part of the study?

**ANSWER 6:**

No. There are no electrical drawings at this point. Spectrum is in the process of securing the GPS for the lines from Big Flat Electric. They will be doing the GPS field work sometime in the next couple of weeks and this will be provided to the successful firm.

**QUESTION 7:**

Is part of the study to field verify equipment, interview O&M representatives to determine typical operating protocol?

**ANSWER 7:**

Yes.

**QUESTION 8:**

Is part of the study to create a load study and then compare the load study results to monthly electric bills?

**ANSWER 8:**

Yes.

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**QUESTION 9:**

Is part of the study to determine minimum and maximum demand?

**ANSWER 9:**

Yes. Also, part of the study is for the electrical consultant to identify every possible way of reducing power demand and thus minimizing on-going Big Flat Electric billing by meter by mine feature. For example, figure out why the GenSets were charged \$355/month at Zortman and \$502/month at Landusky in 2009 when the transformer minimums are only \$32/month at Zortman and \$25/month at Landusky.

**QUESTION 10:**

Is part of the study to evaluate the feasibility of injecting power into the local distribution circuit?

**ANSWER 10:**

Yes. The end result of this evaluation should be electrical reductions and resulting reduced Big Flat Electric billing due to implementation of your proposed cost-saving measures. The second major part of this study is to identify the who, what, where, why, and when of installing a wind turbine. We envision the when being during 2011, the where is at the Landusky Mine site (with exact siting yet to be determined), the what will be an installed single wind turbine with total capital outlay of around \$1 million including all interconnects to existing power grid, the who will be vendors you recommend who are capable of providing this turn-key operation and helping Spectrum write the bid package to be supplied to vendors.